

SEQ ID NO:12 1 MKLHGLGILVAIILY-EQHGFAFQSGQVLSALPRTSRQVQLLQNLTTTYEVVLWQPVTAE  
SEQ ID NO:13 1 MKLYGLGVLVAIILY-EKHGLAFQSGHVLSALPRTSRQVQLLQNLTTTYEVVLWQPVTAE  
5 SEQ ID NO:2 1 MKLCSLAVLVPIVLFCEQHVFAFQSGQVLAALPRTSRQVQLQNLTTYEIVLWQPVTAD

SEQ ID NO:12 60 FIEKKKEVHFFVNASDVDSVKAHLNVSRIPFNVLMMNNVEDLIEQQTFNDTVSPRASASYY  
SEQ ID NO:13 60 FIEKKKEVHFFVNASDVNSVKAYLNASRIPFNVLMMNNVEDLIQQQTSDNTVSPRASSYY  
10 SEQ ID NO:2 61 LIVKKKQVHFFVNASDVNVKAHLNVSGIPCSVLLADVEDLIQQQISNDTVSPRASASYY

SEQ ID NO:12 120 EQYHSLNEIYSWIEVITEQHPDMLQKIYIGSSFEKYPLYVLKVSGKEQRINKAIWIDCGI  
SEQ ID NO:13 120 EQYHSLNEIYSWIEVITEQHPDMLQKIYIGSSYEKYPLYVLKVSGKEHRVKNAIWIDCGI  
SEQ ID NO:2 121 EQYHSLNEIYSWIEFITERHPDMLTKIHIGSSFEKYPLYVLKVSGKEQAAKNAIWIDCGI

15 SEQ ID NO:12 180 HAREWISPAFCLWFFIGYVTQFHGKENLYTRLLRHVDFTMPVMNVDGYDTWKKNRMWRK  
SEQ ID NO:13 180 HAREWISPAFCLWFFIGYVTQFHGKENTYTRLLRHVDFTMPVMNVDGYDTWKKNRMWRK  
SEQ ID NO:2 181 HAREWISPAFCLWFIGHTQFYGTIGQYTNLLRLVDFYMPVVNVDGYDTWKKNRMWRK

20 SEQ ID NO:12 240 NRSAHKNNRCVGTDLNRNFASKHWCEKGASSSSCSETYCGLYPESEPEVKAVADFLRRNI  
SEQ ID NO:13 240 NRSVHMNNRCVGTDLNRNFASKHWCEKGASSFSCSETYCGLYPESEPEVKAVADFLRRNI  
SEQ ID NO:2 241 NRSFYANNHCVGTDLNRNFASKHWCEEGASSSSCSETYCGLYPESEPEVKAVASFLRRNI

25 SEQ ID NO:12 300 DHIKAYISMHSYSQQILFPYSYNRSKSKDHEELSLVASEAVRAIESINKNTTRYTHGGSE  
SEQ ID NO:13 300 NHIKAYISMHSYSQQILFPYSYNRSKSKDHEELSLVASEAVRAIESINKNTTRYTHGGSE  
SEQ ID NO:2 301 NQIKAYISMHSYSQQIVFPYSYTRSKSKDHEELSLVASEAVRAIEKTSKNTTRYTHGGSE

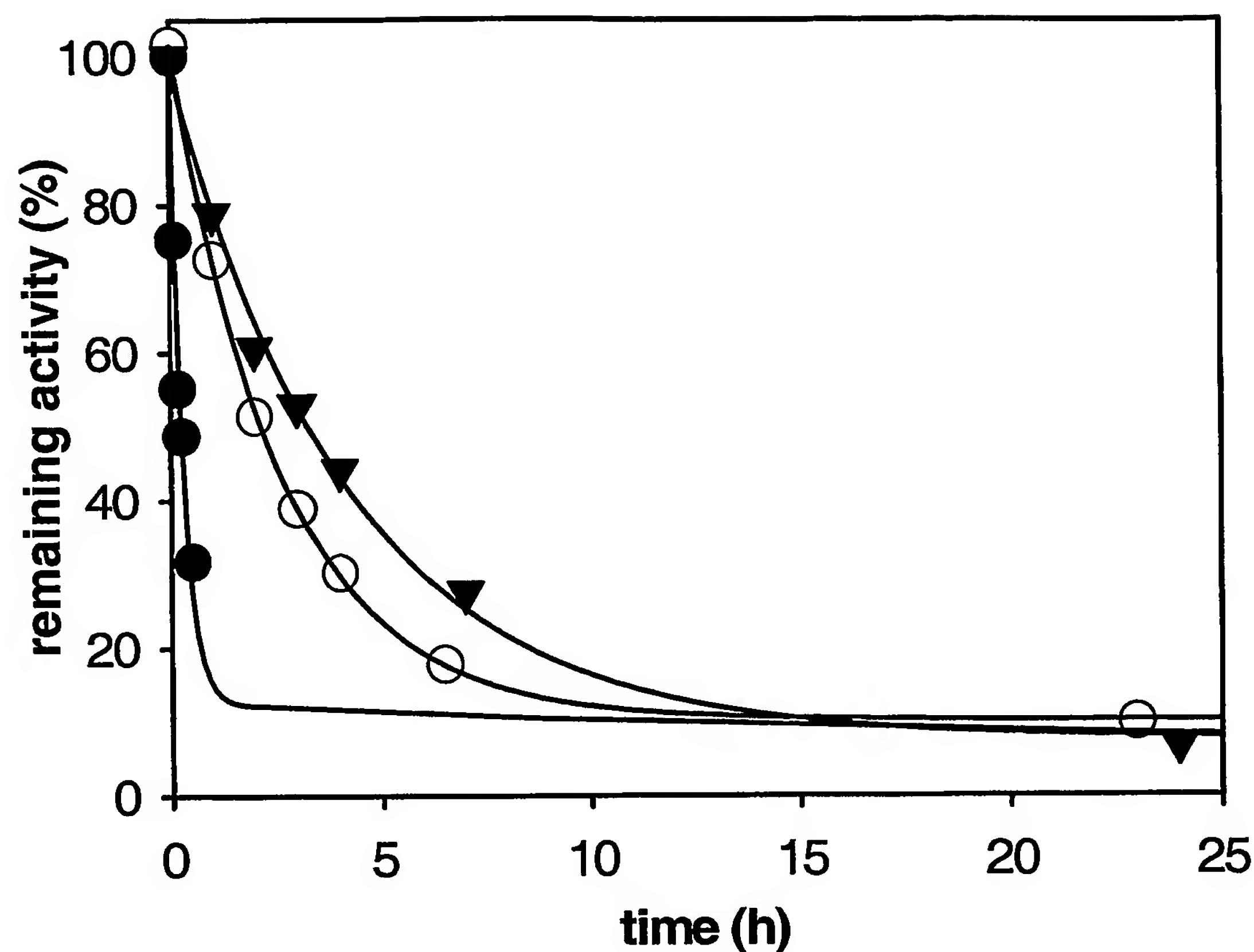
30 SEQ ID NO:12 360 SLYLAPGGSDDWIYDLGIKYSFTIELRDTGRYGFLLPERYIKPTCAEALAAISKIVWHVI  
SEQ ID NO:13 360 SLYLAPGGSDDWIYDLGIKYSFTIELRDTGRYGFLLPERFIKPTCAEALAAVSKIAWHVI  
SEQ ID NO:2 361 TLYLAPGGDDWIYDLGIKYSFTIELRDTGTYGFLLPERYIKPTCREAFAAVSKIAWHVI

SEQ ID NO:12 420 RNT  
SEQ ID NO:13 420 RNS  
SEQ ID NO:2 421 RNV

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Figure 1.



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**Figure 2**

Name of the clone																
WT	K166	I204	V219	Y230	I251	H315	S327	K346	T347	S348	K349	N350	R352	H355	H357	
F1.1.65 B7	N						R	C							P	
F1.1.65 E2							R	C				S			Q	
F1.1.71 F5							C			N					Q	
F1.1.11 E3					T	R	C					S			Q	
F1.1.65 C3						R	C						K			
F1.1.21 B10	N					R	C				S			Q		
F1.2.28 G7						R	C							Y		
F1.2.44 B9			A			R	C									
HQ														Y	Q	
HP														Y	P	
GM2:65D2						R	C									
F1.1.65 B7+R315H	N						C								P	
F1.1.11 E3+R315H					T		C				S			Q		
F1.2.28 G7+R315H							C							Y		
F1.1.71 F5+N348S							C								Q	
F1.1.71 F5+H355Y							C			N				Y	Q	
HQ+S348H										N				Y	Q	
HQ+T347I								I						Y	Q	
HQ+S327P							P							Y	Q	
HQ+N350S						T						S		Y	Q	
F2.1-31F7														Y	Q	
F2.1-47C11		T		C						N					Q	
F2.1-60G8							C							Y	Q	
F2.2.39C3a	N						C				R			Y	Q	
F2.2.39C3b	N						C							Y	Q	
F2.2.134E11							C	N						Y	Q	
SEQ ID NO: 12	K203	I218	Y229		V250	Q314	S326	S345	I346		K348	N349	R351	H354	S356	
SEQ ID NO: 13	K165	K203	I218	Y229	V250	Q314	S326	S345	I346	N347	K348	N349	R351	H354	S356	

**Figure 3**